Monthly Review

Federal Reserve Bank of Boston

YACHT RACE OFF MARBLEHEAD, MASS.

Industrial Opportunities in New England

RESEARCH-BASED NEW ENTERPRISES

New England must "adapt its economy to changing conditions resulting from the opening of new frontiers of knowledge and also new geographical frontiers. These changes have presented New England with a challenge. . . . Without turning its back on the past, the region needs to attain a better balance between the 'old' and the 'new' in industrial development. . . ." [1] With these words seven economists of the Committee on the New England Economy framed the problem of New England's future. In essence, an important key to the future is teamwork in research and new product development.

As one member of such a team, the research staff of The Committee of New England has been conducting studies of research facilities available to New Englanders as well as the present and potential use of such facilities. It was apparent that research could be a most valuable instrument in the selection of industries with exceptional regional growth potentials.

To facilitate such a study, the Federal Reserve Bank of Boston, in cooperation with The Committee of New England, retained Arthur D. Little, Inc. to search out promising growth prospects for New England industry. The diversified scientific groups and specialized personnel associated with the staff of Arthur D. Little, Inc. accepted a challenge to marshal their technical knowledge and to determine the broad groups of new products most adaptable for development and manufacture in New England.

As a substantial contribution to the work of The Committee of New England, Arthur D. Little, Inc. agreed to adapt the techniques normally used in undertaking diversification studies for industrial clients and to treat the area of New England as a diversification client. The knowledge of industrial growth fields possessed by their professional staff provided initial leads to the most promising fields of future technical progress. An analysis of these promising fields in terms of the skills and assets which exist in New England focused attention on those industries which appeared to have the best prospects for development in New England. A series of articles in future issues of the *Monthly Review* will present some of the most significant findings in the study. The Federal Reserve Bank of Boston plans to reproduce the entire study and will supply copies at reproduction cost on request.

The summary and conclusions of the study will appear in the next issue of the *Monthly Review*. The findings of the entire study run the gamut from the present achievements in electronics and instruments to the potentials of atomic energy.

Wherever the spotlight of technical inquiry flashed, it revealed that research is an important creator of new opportunities. For that reason, the first article in the series of selected chapters from the Arthur D. Little, Inc. study deals with *the part played by research in the creation of new businesses*, a little explored area that is becoming increasingly important to the New England economy.

★ ★ ★

RESEARCH-BASED NEW INDUSTRIES

Research is a careful investigation or experimentation which has as its purpose the discovery of new or additional facts that will permit arriving at new findings, or making a revision of previously accepted findings. Of particular interest to this study are those findings which an entrepreneur would consider the basis for a worthwhile new industrial opportunity, and which should result in a new product or process.

New England and the research-based new firm are well suited to each other. New, growing industries are needed to offset regional contraction in long-established industries. Research-based new enterprises offer expanding employment and investment opportunities as well as the attraction of dramatic new product developments which will turn the eyes of the rest of the country toward this area. In some instances research findings are easily exported, but the industrial appli-

[1] *The New England Economy*, a report to the President prepared by a Committee on the New England Economy, Council of Economic Advisers, p. XXI.

cation of research often constitutes a difficult problem and the firm which can be in close and continuing communication with the personnel involved in the original findings is in an advantageous position. The high quality of research in New England has concentrated an increasing number of new firms around its research centers.

Since New England offers a favorable opportunity for research-based new firms, and since the man who starts the firm is highly important to its success, inquiry turns first to the source of supply of entrepreneurs. Who are these men, what are they like, what is their background and education, and why do they go into business for themselves?

The Men Who Start Research-Based New Enterprises

In recent years the lack of interest shown by young men in entrepreneurial activity has caused concern. In surveying the college graduating class of 1949, Holly Whyte commented that "The class of '49 wants to work for somebody else — preferably somebody big. . . . As for the idea of going into business for oneself, the idea is so seldom expressed as to seem an anachronism."[2] If Mr. Whyte's findings are correct for college graduates in general, they pertain especially to men with a research interest — an activity usually not closely connected with entrepreneurship. How, then, does New England get the men to start research-based businesses?

One important source of new entrepreneurs is the relatively large number of young men from all over the country who come to New England for academic work in science and engineering. During their studies many become so acclimated to New England that they do not want to leave. New England also provides broad employment opportunities for men with research backgrounds to gain experience. In addition, the exchange of ideas with other scientists and engineers who have similar interests is important for intellectual growth.

The academic institutions and well-established firms using research combine to give a young man education and experience which cements him to New England. As a matter of fact, the very wealth of research talent in this area has led some of these men to consider moving to other parts of the country in order to better their opportunities. Frequently these opportunities are declined, but the individual who has decided to remain in New England may then consider going into business for himself as a means of improving his own future.

In terms of age, men starting research-based companies in New England typically have been in their early thirties — much younger than might be expected. These men usually hold a bachelor or master degree in science or engineering, and have between five and ten years of experience in technical and research fields. As a rule they have some savings to contribute toward the new venture, but because they are able to secure outside financing they do not have to defer starting their own firms until able to finance them completely out of personal savings.

Why does a man want to start a new research-based firm? Usually it is a combination of a number of motives, rather than any single dominant interest. A study of forty research-based new enterprises[3] reveals that the motives most commonly mentioned by these entrepreneurs were:

1. A desire for closer identification of individual work and the final product. Such a man usually got more satisfaction out of carrying through a few developments all the way than he did from making a limited contribution to a large number of research projects.

2. A desire to exploit a particular idea for a new product or process. Especially when the new idea did not fit into the framework of the activities of the employer, the individual was likely to step out and start his own firm, frequently with the encouragement of his former employer.

3. A desire for managerial freedom. Some individuals feared they would never get beyond highly specialized work in one particular field or department if they stayed with a large company, and they preferred broadening their responsibilities even though it meant starting a new company to do it.

4. A desire for prestige and recognition. Research personnel place a good deal of importance on published articles, but some of them found satisfaction in going beyond this level to the point of developing a significant new product or process for the market.

5. A desire to build a personal equity. The opportunity to share in the capital appreciation of a growing company was more appealing to certain individuals than the prospect of being a salaried employee, even though the salary was a comfortable one.

While other fringe motivations for going into business were discovered, they did not occur with the frequency of the five listed above.

What kind of men start new firms based on research? In addition to being in their thirties, having a college background in science and engineering, and from five to ten years of experience, many of these men had the following characteristics:

1. A high level of physical energy. They demonstrated a willingness to work long hours and a liking for "getting dirty" out in the plant.

2. A willingness to assume calculated risks. This characteristic especially helped to differentiate them from other research men.

3. An ability to handle many details and tie them into operations. Keeping a "number of balls in the air" simultaneously was a strong characteristic.

4. A "captain of the team" type of leadership that inspired confidence and loyalty in associates.

5. A determination to stick with the new firm no matter how difficult the problems became.

Rather than trying to set up a composite model of the entrepreneur of a new firm based on research, it is more enlightening to take a series of cases to illustrate the kind of man we are discussing.

George A. Philbrick, a native New Englander, graduated from Harvard with honors in electrical engineering in 1935. He then joined a well-known New England electronics company, spending most of his time in the research department developing control devices until 1942, when he became a part of the Office of Scientific Research and Development, a government project

[2] Holly Whyte, "The Class of 1949," *Fortune Magazine*, June 1949, p. 85.

[3] Unpublished study by Dr. Cyril Herrman of Massachusetts Institute of Technology.

under the direction of Dr. Vannevar Bush. Upon returning to Massachusetts in 1945, Philbrick wanted to develop some of his own research ideas further, so he devoted half-time to his former employer on a consulting basis and the rest of his time to the development of an electronic analogue computer, with special application to research and design problems. In November of 1946 he founded the George A. Philbrick Researchers, Inc., and engaged in design, manufacture and sale of this computer. Since his employer was in a slightly different field, the management encouraged him to set up his own firm. By entering the field relatively early, the company gained an advantage and is now soundly established and still growing.

John Taplin graduated from M.I.T. in 1935, taking his degree in electrical engineering. After working for three companies, and getting diversified experience in research, product development, sales and installation, production and cost control, Taplin in 1947 decided he would get more satisfaction out of going into business for himself. His experience with companies using both electrical and pneumatic controls had convinced Taplin that existing compressed-air regulator valves had several shortcomings that could be overcome. He decided to spend a year in independent research and product development on a highly differentiated and improved control valve. The result was so successful that for all practical purposes Taplin had developed a new product. In 1948 he set up the Kendall Controls Company and became president of the new firm. The company has expanded steadily and recently constructed a new plant to accommodate the increasing volume of production.

Fitzroy Kennedy, a Boston boy who went to high school in Paris, returned to this country to study radio and became a marine radio operator. After a year of this work he got a commercial broadcaster's license, and in 1939 became a radio engineer. Subsequently Kennedy joined the Test and Calibration Department of General Radio Company. After Pearl Harbor he joined the Croft Laboratory at Harvard University and was in charge of electronic development on communications equipment. In 1946 Kennedy enrolled at Harvard in the School of Applied Science. By 1948 his funds were exhausted, but he had completed three and three-fourths years of work and had several new electronic products which he believed constituted the basis of a new company. The most promising product grew out of an acquaintance with a Harvard Ph.D. candidate, Gunther Rudenburg, who was working on a wide-band distributive amplifier. Rudenburg did not want to go into business, so he licensed the use of his development work to Kennedy in return for a three per cent royalty on sales for the first three years of operations. After redesign and further development, Kennedy succeeded in marketing a successful wide-band amplifier. The company, incorporated in 1948, now has national distribution to a well-established group of customers. Kennedy translated a laboratory model into a new product that became the first of the line of Spencer-Kennedy Laboratories products.

Upon receipt of his B.A. degree in Natural Sciences from Swarthmore College, William A. Jones joined the American Cyanamid Company as Chief Instrument Maker and worked there for a period of six years. During World War II, he served in the Naval Reserve as an engineering specialist in the testing of anti-aircraft ordnance for the Navy. Subsequently he joined the engineering staff of Raytheon Manufacturing Company as a senior instrument engineer in charge of the design of special gyroscopic equipment. Liking the New England area and wanting to become part of a new company, Jones in 1948 became co-founder of the Control Engineering Corporation, serving first as Vice President and then as President. The company has since grown from twenty-five to one hundred sixty employees. Further expansion is planned to meet the requirements of the company's sizable backlog of orders. The Control Engineering Corporation specializes in the design and manufacture of precision instruments and controls.

The listing of companies established by such men could be extended, but the above cases demonstrate how New England attracts men skilled in research and qualified for the entrepreneurial activities necessary to found and develop a new firm based on research.

Ideas for Research

The new firm based on a research idea faces a market of unexplored potential. It differs from the firm entering a competitive field, where management must provide a product of higher quality, lower price, or better service than others who have already become established in their field of operations. The lack of established competition favors the research-based new firm. However, the market is largely unknown; it may develop quickly, slowly, or not at all in response to the product or process offered it. A major problem for the research-based new firm is to predict with some accuracy how many units it can sell, and at what price, over a given period of time. It is important for the founders of the firm to establish some framework within which they can evaluate and judge new ideas before formally entering into a business organization.

Currently there are no well-developed market research techniques which can accurately predict the market potential for a new product or process of the research-based new firm. The founders of such enterprises have been observed, however, to adhere to a certain framework in selecting and evaluating the new ideas chosen as the basis of the business.

One of the methods of selecting the idea is to observe an unanswered market need. Then, if research can solve the problem, the new firm is likely to obtain initial sales. In some cases the market actually comes to the researcher, asks to have the problem solved, and promises orders for a satisfactory solution.

The problem of preserving fresh drinking water in tin cans illustrates the case of the market asking for a research solution to a problem. During World War II, the drinking water in lifeboats aboard merchant ships was carried in large wooden casks called water breakers. The casks tended to split if they froze and were too full. A large number of smaller-sized containers, such as tin cans, was a better method to preserve drinking water. Even if bullets punctured a few cans during enemy action, most of the water supply would remain intact. But no satisfactory method ever had been devised to preserve fresh water in tin cans, and

the can manufacturers believed such a feat was likely to be impossible.

Robert Morrison, a successful Boston lawyer with a liking for entrepreneurship, had been associated with a company that had done development work on canning live lobsters for shipment to other parts of the country. The head of a fleet of merchant ships offered Morrison a large order for canned drinking water if he could overcome the technical problems involved. The water must not be contaminated by bacteria, rust, salt or other impurities. It had to taste fresh and could not be brackish. After six months of intensive development work, wherein Morrison utilized his own background in the field plus the help of water consultants, chemists, food technologists and machine designers, a process was worked out which satisfied all the requirements. It involved lacquering the inside of the cans plus sterilizing and processing the water with heat, ultraviolet rays and blasts of compressed air. Special machines were built for measuring the exact quantity of water, and special sealing techniques were utilized. The result was sterile canned water which stayed fresh. An immediate military market was assured, and after the war the company diversified its sales of canned water to civil defense, sportsmen, hospitals, etc. The Multiple Breaker Company, which operated first as a partnership and incorporated in 1945, is selling canned water to the military market again but is carefully building up its civilian market.

Commercial Development and Participation in Growth

A different situation obtains when the businessmen do not understand the significance or application of basic research being carried on in academic institutions. Frequently the scientists engaged in research have no idea of its useful application; they are engaged in improving theoretical understanding in a field. In such cases there is a definite need for someone to translate the findings of basic research into useful industrial applications. The individual who undertakes such a task must himself have the dual ability of understanding the research and of visualizing certain useful industrial applications of the research. New England offers an ideal environment for this translation since a vast amount of basic research is conducted near a heavy concentration of industry.

The development of High Voltage Engineering Corporation is a typical illustration of the translation of basic research into industrial application. Dr. Robert Van de Graaff had developed a high voltage static generator as a scientific tool. Dr. Karl T. Compton as president of M.I.T. brought Van de Graaff to Technology where he and Dr. John Trump carried on further research on high voltage generators. Van de Graaff was interested in pure scientific research, while Trump was interested in the applications of the work, choosing cancer therapy as one promising field for use of the high voltage X-rays.

Subsequent to his wartime experience as head of the British branch of the M.I.T. Radiation Laboratory, Trump became convinced that high voltage generators could be manufactured and sold on a commercial basis. Since Van de Graaff and Trump wished to continue with teaching and research, Dr. Denis Robinson was brought over from England to become president of the newly organized High Voltage Engineering Company.

Lack of understanding of the generator itself produced divided opinion on the part of the medical profession on applications of the generator for cancer therapy. However, after proving successful in actual operation over a period of time, the high voltage generator is now an accepted device in the treatment of cancer, and many other applications such as industrial radiography, nuclear research, and the sterilization of food and drugs show promise.

Some new firms are established when a field is new and relatively undeveloped, and the application of research to current problems promises rewards.

Research in nuclear physics was soundly established during World War II. Most of the research was of a military nature and led to the development of the atomic bomb. However, atomic energy also seemed to have potentially useful industrial applications. The research laboratories conducting nuclear research were in need of improved instrumentation to facilitate their work. During the war many of the necessary instruments were constructed in the laboratories. Tracerlab, Incorporated is an outstanding example of an organization of research-minded young men who saw the openings in this new field and followed them aggressively and intelligently. The company is now in a leading national and international position in the development and sale of instrumentation and radioactive isotopes. Another example is the Atomic Instrument Company of Cambridge, incorporated in November 1946, which manufactures and sells radioactivity measurement instruments for use in nuclear laboratories.

Financing New Research-Based Firms

The founders of research-based new firms typically do not have large personal financial resources and they must depend on outside financing. Does New England have venture capital available for the financing of research-based new enterprises? From what source does the venture capital come?

The typical individual starting his own business regards a lack of money as the greatest obstacle to be overcome, and accordingly he goes out and raises all the money he can and then tries to build a business around it. Investors in new firms believe that most entrepreneurs seek money too soon, at the sacrifice of orderly planning which would help develop information showing the amount, use and timing of proposed expenditures. The financing process is greatly facilitated if the founder carries the planning as far forward as possible before seeking funds.

Initial financing must be adequate to carry operations until sales revenues reach the point of making the firm self-supporting. It must allow for the time and cost of engineering and development work prior to full-scale production. Some presidents of new firms have found that it takes several times as much time and money to complete development work as they had originally anticipated. Financial planning must also cover production facilities and provision for expansion. The need for adequate working capital is of prime importance in any planning.

When these estimates are translated into costs the financial requirements begin to emerge. In some cases the planners decide they will have to produce less than they had hoped for the first few years because of the amount of investment needed. In other cases the unit cost level shows that the firm will have to raise its price and re-examine the effect on volume and profits. Occasionally work is subcontracted in order to minimize the original investment needs.

There is no general agreement as to the availability of venture capital in New England for new firms. Investors claim there is plenty of money available to a good man with a good idea, and entrepreneurs claim there is not enough money available under sufficiently attractive terms. It is a fact, however, that many research-based new firms have started by drawing on various pools of capital in New England.

The surest way of getting the money to start a new firm is for the original group who start the company to put up their own money. This procedure is especially effective if the initial capital requirements are not high, and the management group can afford to work at no salaries or minimum salaries. Some of the electronics firms that have been highly successful were able to start in this manner, since engineering and design were important in the early stages, components for the finished product could be purchased rather than manufactured, and assembly did not require expensive tooling and machines.

It is not unusual for the founding group to lack the savings necessary to get a new firm started, so that they need to bring in additional money. Since the firm is new, there is very little market for the stock and the founders privately sell the stock to their friends and acquaintances. In such cases the stock is bought on the basis of confidence in the founding group and in the hopes that the future expectations of the management for the company will be realized. As a rule, private stock offerings permit raising relatively small sums of money, ranging from $10,000 to $100,000.

Kendall Russell, Treasurer of Wain-Roy Corporation, illustrated the method used in selling stock on a private-offering basis. The president of the firm had developed a new type of hydraulic back-hoe ditch digger. The product filled the gap between the pick and shovel and the conventional large construction ditching equipment. Russell talked to as many people as he thought might have money to invest in a new firm. At first he tried writing and telephoning for appointments, but this was not very successful since the recipient did not understand what Wain-Roy Corporation was all about. Russell ended up by calling on people evenings and week ends and by explaining first exactly what the product was able to do. Most people could understand the advantage of the product, and a number of people were willing to buy stock in the new firm that was going to make and sell this product.

Two well-known venture capital firms are located in Boston. New Enterprises, Incorporated, organized by William Coolidge in 1946, has a relatively small capitalization and is staffed by a group of businessmen and engineers who screen and evaluate new ventures. The ventures that pass the screening are presented to a group of investors who are associated with New Enterprises, Incorporated, and these men invest to the extent of their interest. The capitalization of the firm constitutes a revolving fund which carries the expenses of the firm and permits occasional small investments. The true financial strength of the firm lies in the venture capital which its associates have available for investment. The investors seek their reward in long-term capital gains.

The management of New Enterprises, Incorporated, considers chiefly new ideas, whether the ideas result in a new or cheaper article or service, or apply a new technique over a broad field. The new idea should not be a mere gadget, but should be basic in its conception and have the widest possible potential application.

The American Research and Development Corporation also is located in Boston, and is the only venture capital firm in the country that has offered its own stock for sale to the public. By policy, major investments are in new firms that are engaged in the development of new products or processes of a technological nature. Two thirds of the companies invested in by American Research and Development are located in New England. An advantage of a New England investment for this firm is the close geographic contact which permits frequent communication between management of the venture capital firm and management of the new enterprise. American Research and Development Corporation has been instrumental in financing a number of successful research-based new firms in New England. An example is Tracerlab, Incorporated.

Summary

Research produces a stream of new opportunities which in many cases become the basis of new enterprises. New England is especially well suited to research-based new firms because of its high quality research in scientific and engineering fields. This research frequently is best translated into industrial applications close to the research center, insuring close cooperation and efficient prosecution of future research developments. New England also enjoys a supply of well-educated and well-trained individuals with entrepreneurial interests who understand both the implications of research and their industrial application. For the most part there is also an adequate supply of venture capital, coming from friends and acquaintances, wealthy venture capital investors, and from venture capital firms. As soon as growth and development of a firm warrants the move, the underwriting of a public stock offering is facilitated by the availability of New England investment banking firms.

Among New England's foremost advantages for research industry is a supply of highly skilled labor that is stable and has a low turnover rate. When some companies have left New England, skilled labor has preferred to remain in this area rather than migrate to new locations. One reason the region has retained skilled workers as well as research men is because it is a recognized vacation center. The area offers educational, cultural and sports advantages that are hard to duplicate in many other parts of the country. Finally, as an integrated industrial area it has an adequate number of suppliers and subcontractors, and it is near major industrial markets.

Monthly Review
FEDERAL RESERVE BANK OF BOSTON

N.E. Member Bank Profits Rise

NET PROFITS advanced moderately at member banks in the Boston district during the first half of 1952 and were about 5.5 per cent higher than amounts reported in either half year in 1951. After all charges but before payment of dividends, net profits aggregated $18.1 million.[1] Both Boston banks and those outside the city shared the increase in contrast to last year when banks outside the city reported decreases in net profits. Heavier expenses and larger payments and accruals for taxes were more than offset by larger total operating earnings. Reduced losses on loans and securities also aided profits. Net profits on an annual basis were 6.1 per cent of capital accounts as compared to 5.5 per cent for 1951, matching the highest rate in any postwar year.

Total current earnings reached $102 million, the highest on record, and exceeded those reported in either half of last year by good margins. All categories of earnings increased. Following the trend of the postwar period, the largest absolute and relative gain was made in earnings on loans. This source of earnings exceeded results in the first half of 1951 by 12 per cent and those in the second half by about six per cent. As a proportion of total earnings, the return on loans was slightly higher than it was last year and amounted to 52.3 per cent. The increase in earnings on loans arose chiefly from higher rates — total loan volume was only one per cent higher than in 1951. An increase in earnings on securities over amounts earned in 1951 reversed the declines shown in both halves of 1951. Earning rates on securities were slightly higher and average volume held throughout the period a little larger than their levels last year. Substantial write-offs of premiums on U. S. securities during the last six months of 1951 considerably reduced these earnings last year. All other sources of earnings also showed improvement and there was no important change in distribution by source.

Current expenses for the first half of 1952 advanced to $65.3 million, following the pattern of recent years. Expense outlay represented an 11 per cent increase compared with that in the first half of 1951, but was only slightly higher than such outlay in the second half of the year. There was no significant change in relative importance of expense items on an aggregate district basis. They all increased in comparison with those in 1951. Interest paid on time deposits at banks outside Boston advanced to $6.5 million — an increase of 16 per cent over its level in the first half of 1951 and ten per cent over payment in the second half. This change reflected chiefly the increased rates paid depositors inasmuch as the volume of deposits was only slightly higher than it was last year. Competition of other investments and institutions for savings forced some upward movement of rates. Other current expenses such as cost of occupancy and maintenance of quarters increased moderately, reflecting the high prices of goods and services during the half year.

For the first time in several years expenses rose just as fast as total earnings, and net current earnings consequently represented the same proportion of total earnings, 36 per cent, as in 1951. Net current earnings amounted to $37 million — about $2.4 million, or seven per cent more than amounts reported in the half-year periods last year.

Noncurrent transactions — net of recoveries and profits, losses and charge-offs, and valuation reserve additions — were reduced to $3.4 million, substantially less than the amounts reported in recent half-year periods. Net current earnings were thus reduced less, and profits before income taxes amounted to $33.5 million — a level considerably higher than the amounts reported last year.

Income taxes at the higher rates imposed late in 1950 took 28 per cent more than they did in the first half of last year and about 55 per cent more than in the second half. The ratio of net profits to net current income was thus slightly lower at 49 per cent.

Dividend policy remained conservative. About $9.5 millions were paid in cash dividends. These payments were less than amounts disbursed during the last half of 1951 because of year-end extras, but were about ten per cent more than dividends paid in the first half of last year. The substantial balance of profits, $8.6 million, was carried to capital to strengthen these accounts.

[1]Usual differences in some earnings and expense categories do not invalidate comparisons of first half-year earnings with those in the second half. However, the comparisons should be made with care. For example, bonuses paid to staff, and losses and charge-offs are usually reported in larger volume in the second half of the year than the first.

MEMBER BANK EARNINGS, EXPENSES, AND PROFITS
(Amounts in Thousands of Dollars)

	Boston		Other First District Banks	
	First Half 1952	% Change from Second Half 1951	First Half 1952	% Change from Second Half 1951
Earnings:				
Interest received on bonds and stocks	$ 8,599	+ 7.4%	$18,331	+ 4.1%
Interest received on loans and discounts	18,388	+ 3.6	35,111	+ 6.8
Service charges on deposits	1,096	+ 3.5	4,681	+ 2.6
Trust department	3,950	+ 1.9	3,831	− 5.1
All other income	3,845	+ 5.8	4,493	+ 9.9
Total earnings	**$35,878**	**+ 4.5%**	**$66,447**	**+ 5.2%**
Expenses:				
Salaries and wages	$11,485	+ 3.6%	$21,732	− 1.1%
Interest paid on time deposits	806	+ 2.7	6,543	+ 9.6
All other expenses	8,373	+ 5.3	16,364	+ 8.5
Total expenses	**$20,664**	**+ 4.3%**	**$44,639**	**+ 3.8%**
Net losses	$ 1,051	−70.3%	$ 2,393	−39.8%
Profits before income taxes	$14,163	+29.2%	$19,415	+19.9%
Taxes on net income	6,761	+53.7	8,682	+56.5
Net profits	**$ 7,402**	**+12.7%**	**$10,733**	**+ 0.8%**
Dividends declared on common stock	$ 4,226	−13.9%	$5,331	− 6.0%

Changes in Earnings Assets

COMMERCIAL LOANS — Business lending during the first six months of 1952 continued at the high rate characteristic of last year. Business loans outstanding at member banks on June 30 amounted to $1.3 billion. Small decreases at Boston were slightly more than offset by

an increase of about five per cent in these loans at banks in the district's principal cities and "country" areas. Total business loans were up slightly from the year end. Lending volume was sustained to a considerable extent by defense and defense-supporting activities. Among others, manufacturers of metals and metal products and public utility organizations increased their borrowings. The trade and other consumer-goods activities continued to make net repayments, but in most instances at reduced rates. Finance companies, however, returned to the banks to increase their outstandings. A better situation developed in most durable and nondurable consumer goods lines.

Short-term rates on business loans firmed moderately during the first quarter but showed little change during the second. In the first half of June the average rate in Boston on these loans was 3.44 per cent compared with 3.13 a year ago and 3.16 in December. Rates at banks outside Boston also rose. Most of the loan volume during the first half of this year was carried at the increased rates. The rise in rates again produced a cumulative effect as many new loans were made and old loans renewed at the higher rates. The upward shading of rates was common to all sizes of loans.

REAL ESTATE LOANS — Total real estate loans reached $538 million — four per cent above the total reported at the year end and 16 per cent above that a year ago. Most of the increase occurred in loans on residential properties.

Residential mortgage markets have been active during the half year. New housing starts in representative areas of the district have risen sharply since last winter and in June equalled last year's level. Sales and refinancing of old houses, while below record peaks, continue in good volume.

CONSUMER LOANS — Consumer instalment loans showed little change until late spring when they advanced seven per cent, reaching $327 million — a new record peak. These loans showed little change last year. The increase was caused chiefly by automobile loans and credit advanced for other consumer durable goods.

INVESTMENTS — No change occurred in the banks' aggregate holdings of investments between the year end and June 30. During March, holdings of Governments declined at banks in Boston in response to pressures created by the movement of tax monies. District banks in general have offset declines in holdings of government securities with municipals and other securities. State and municipal securities continue to be more attractive because of the increased yields and tax exemption features. Relatively unimportant changes were made in maturity distribution. Earning rates moved up slightly from those last year.

MEMBER BANK CONDITION
(Amounts in Thousands of Dollars)

	Boston		Other First District Banks	
	June 30, 1952	% Change from Dec. 31, 1951	June 30, 1952	% Change from Dec. 31, 1951
Assets:				
Total reserves, cash and balances	**$ 651,972**	**—11.0%**	**$1,016,348**	**— 9.5%**
Total U. S. securities	$ 824,985	— 3.6%	$1,665,099	— 3.1%
Other securities	167,036	+43.4	388,477	+ 9.5
Commercial and industrial loans	$ 700,952	— 1.8%	$ 587,982	+ 4.6%
Real estate loans	86,638	+ 1.5	451,756	+ 4.3
Other loans to individuals	134,396	— 7.0	389,950	+ 9.2
All other loans	93,498	+26.7	80,830	+ 9.5
Less reserve for bad debt losses, etc.	$ 20,594	+ 6.2%	$ 23,759	+ 5.1%
Total loans and discounts	994,890	— .4	1,486,759	+ 6.0
Total loans and investments	**$1,986,911**	**+ .8%**	**$3,540,335**	**+ 1.9%**
All other assets	61,083	+ 1.0	65,638	+ 2.9
Total assets	**$2,699,966**	**— 2.3%**	**$4,622,321**	**— .9%**
Liabilities:				
Demand deposits	$2,210,750	— 2.9%	$3,089,662	— 2.3%
Time deposits	183,677	— .3	1,138,707	+ 2.0
All other liabilities	63,049	— .8	40,366	+ 3.3
Capital Accounts	$ 242,490	+ 1.4%	$ 353,586	+ 2.1%

Recent Policy Changes

The general balance in business at high levels of activity persisted throughout the half year. Many of the soft spots which had been affecting district industry and trade improved substantially. Inflationary forces which had characterized much of 1951 subsided.

Regulation W, governing consumer instalment credit, and the voluntary credit restraint program were suspended in the spring largely because of a better balance in economic activity. Regulation X and companion regulations of the HHFA governing federally aided housing were relaxed in early June. The modification of terms is designed to provide for all price ranges of residential units loan values comparable to those prescribed a year ago by Congress for lower-priced houses. The Defense Production Act Amendments of 1952 by Congressional action completely freed consumer credit from control and discontinued authority for the Voluntary Credit Restraint Program. Under the new act residential real estate credit is regulated, but its terms are contingent upon the number of housing starts. No changes were made in terms governing loans on commercial properties. The System is thus placed in the position of relying almost completely upon its general credit control powers in adjusting the credit situation to or in anticipating changes in economic activity. General policy followed since the end of the year has been neutral, neither adding to nor subtracting from the volume of bank reserve funds on an over-all basis. Money markets were generally tight throughout the half year, particularly during the second quarter. A larger number of banks than usual continued to adjust their operating positions through discounting at the Reserve Bank in periods of extreme tightness. Money rates have reflected more positively the play of demand and supply forces than previously.

No significant change which might affect business activity is foreseen for the balance of the year. The recent tone, however, should improve with the settlement of the steel strike, particularly in the metal-working industries. Despite further stretch-out, the rate of defense expenditure is expected to continue to mount throughout the next six months. These factors coupled with continued high levels of private investment and higher rates of spending by consumers should provide a good base for bank lending which will probably advance beyond its present level because of seasonal factors. Resurgence of inflationary forces which could develop under certain conditions should be guarded against. Earnings prospects continue to be favorable.

The N. E. Labor Market

★ ★ ★

CONTINUED IMPROVEMENT in some lines of civilian business together with the settlement of the steel strike have raised employment prospects in New England for this fall. Most of the region's nonmanufacturing industries have operated at a high level throughout the year. From January through June, however, total nonagricultural employment was slightly below the high levels set a year ago, principally because of slack conditions in some of the region's important nondurable-goods plants. Paced by expanded operations in the leather products, textile, and food industries, additions to work forces in soft-goods plants in June more than offset the slight decline in the durable-goods industries and resulted in the first upturn in manufacturing employment in New England since February.

The stretch-out in the defense program shortened hours and slowed down hirings in some of the region's plants working on government orders during the second quarter. In July and August steel shortages resulting from work stoppages limited operations of some steel-consuming plants. But production will pick up quickly when steel is again available. In addition, improvement in demand for soft goods in coming months is expected to raise employment in New England to its highest levels of the year.

The increased demand for labor will probably not put any strain on the region's labor supply. Its effect will be felt principally in areas that have had substantial unemployment as a result of depressed conditions in the region's soft-goods industries. Persistent labor shortages continue to exist in scattered areas and in some occupations, especially in the skilled categories. But even in normal times, textile, shoe, and apparel plants perennially have had difficulty in finding sufficient skilled labor in their peak seasons.

At mid-year Hartford still was the only New England area in the "tight" labor supply category. Outside of Connecticut a moderate to substantial surplus of labor existed in other New England labor markets.

New England plants have received little aid under the government's policy of channeling orders into distress areas provided local manufacturers could meet the lowest bid price for such work. The exclusion of textile and shoe plants from consideration under this plan cut off most of the hard-pressed New England communities. However, the competitive position of New England cotton and rayon manufacturers is expected to strengthen because of a narrowing in the wage differential between northern and southern mills which came at a time when indicators pointed to a pickup in business.

Although arbitrators' decisions reduced wage rates in segments of the textile industry, workers in many other major industry groups continued to press demands for upward wage adjustments. The steel wage decision was the forerunner, and negotiations were under way in the electrical machinery, rubber, and shipbuilding industries. In the past year average weekly earnings of factory workers in New England increased by four per cent.

PRICE NEWS

HAMBURGER, not chops — canned corn, not fresh. Only the agile housewife avoided a billowing food budget this summer. In June the Boston consumers' price index reached new high ground as the food component registered another solid gain, according to the U. S. Bureau of Labor Statistics. Compared to price levels in June 1951, however, rent stood the highest at +5.1 per cent, while the miscellaneous group had advanced 3.5 per cent, food 2.3 per cent, and fuel, electricity, and refrigeration 0.8 per cent. Apparel and housefurnishings prices declined during the year.

Price increases in the food lines helped push the over-all consumers' index higher in July, while potential upward pressure from other sources appeared among wholesale quotations. The monthly wholesale price index had touched a low for the year in June, but it rose in July to 111.8 per cent of the 1947-49 average. The sample weekly index advanced during the last three weeks of July and the first week of August. The farm products component advanced substantially, along with processed foods as the index for meats gained 4.7 per cent. The residual nonfarm component also made substantial gains, influenced by the inclusion of estimated steel price increases.

A more sensitive indicator of developments in the primary markets is the daily B.L.S. price index of 28 basic commodities. It stabilized from June through early August at a level about 25 per cent below the high in February 1951. The index, however, balanced out wide price fluctuations among the 28 commodities.

The spring pickup in the shoe industry continued into the summer, and primary-market hide prices in early August were about 25 per cent above the year's low in April. Quickening activity in textiles — both cotton and wool — was reflected in the print cloth and wool-top components of the 28-commodity index. In early August print cloth sold at prices 13 per cent higher than at the low in May, and about five per cent higher than a year ago. Wool-top prices improved steadily during the early summer, but experienced a price-break in late July upon expectation of unusually large offerings from foreign countries.

The midsummer threat of a severe drought was subsequently allayed, and its influence on most spot prices was temporary. On August 11, barley prices were about 10 per cent higher than in mid-July, but the prices of corn, cotton, and wheat had advanced only slightly. Official predictions published at the beginning of August indicate larger corn and wheat crops than in 1951, and it is probable that estimates of a drought-shrunken cotton crop will be revised upwards.

The effects of some inflationary forces, however, were not yet reflected statistically in early August. The aluminum wage-price boosts were to be reckoned with throughout the economy, as well as the widespread use of conversion steel at premium prices. Bearish price factors were scarce, although most metals were in good supply and the price of zinc had dropped drastically. Prices of cocoa beans and tallow were on the downtrend in primary markets, while rubber and burlap cost about five per cent less than in late June.